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Adverse Reactions

Smallpox vaccination (vaccinia) is a generally safe, effective preventative against smallpox.

However, in a number of individuals, smallpox vaccination can result in untoward effects and adverse reactions. Most are totally benign, if frightening in appearance. Some are serious, but treatable. A few, which rarely occur, are serious, life threatening and can be fatal.

All adverse reactions must be reported to the CDC. Please click on the Reporting an Adverse Event button for further information.

Click on any of the adverse reaction images or names at the right to read more about each adverse reaction, including who is susceptible and measures that might be employed to reduce risk to the vaccinee and his/her contacts.

Hospitalization

Hospitalization of patients with adverse events should be based on the degree of severity and infectiousness:

	Do Not Hospitalize	Hospitalize
Non-infectious patients(*)	X	
Generalized vaccinia(†)	X	
Severe and extensive accidental implantation(§)		X
Progressive vaccinia(§)		X
Post-vaccinal encephalitis(§)		X

* Unless serious disease is present, such as Stevens Johnson Syndrome.

† Most patients with generalized vaccinia will

Click on an adverse reaction image



▶ Reporting an Adverse Event

Immunity and Adverse Reactions

Immunity to vaccinia is dependent on mediated immune function and antibody production. In general, individuals with cell-mediated immunity do not suffer serious consequences. Individuals with cell-mediated immunity but with intact cell-mediated immunity generally handle vaccinia incident. However, there are reported events, even in this group of vaccinees.

Frequency of Adverse Events

The rates reported in the frequency of each adverse event were derived from studies conducted in the 1960's; state survey and one from a national survey. The actual rates differ in these studies for several reasons; the reports vary

not require hospitalization; in fact, it is prudent to avoid hospitalization to minimize intra-hospital spread.

- § Patients with severe and extensive inoculation vaccinia, progressive vaccinia and post-vaccinial encephalitis almost always require hospital care. In hospital, they must be isolated and care taken to separate all materials used in their care, treating such materials as infectious waste. For further information, please visit the [Preventing Contact Transmission](#) page.

which data were collected, in so serious reactions were absent or reported than in the other study diagnoses were not uniform in d

As a result the specific rates ma reliable as one would wish. Wha that overall, less serious complic at a rate of 1000 per million vac Approximately half of these were inoculations occurring most freq children. One primary concern is for serious adverse events. The data in the tables for each adver to be more reliable. In initial vac programs currently, only adults vaccinated and it is difficult to tr from either of these studies to e adverse event rates in that popu be collected prospectively to she rates in 2002-2003.